15-03-2006

Nilfisk-ALTO C 100.3
Nilfisk-ALTO C 110.1
Nilfisk-ALTO C 110.1 X-TRA

Nilfisk ALTO
Why Compromise

(EN) User Manual ..... 3 - 15

Wap KEW TECHNOLOGIES

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1 Safety Precautions and Warnings

Symbols used to mark instructions

Before starting up your high-pressure washer for the first time, this instruction manual must be read through carefully. Save the instructions for later use.

Safety instructions marked with this symbol must be observed to prevent danger to persons.

This symbol is used to mark safety instructions that must be observed to prevent damage to the machine and its performance.

This symbol indicates tips and instructions to simplify work and to ensure a safe operation.

Do not let people who have not been trained in the use of a high pressure washer nor read the instruction manual operate the machine.

This appliance is not intended for use by children or other persons without assistance or supervision if their physical, sensory or mental capabilities prevent them from using it safely. Children should be supervised to ensure that they do not play with the appliance.

Before starting up your machine please check it carefully for any defects. If you find any, do not start up your machine and contact your Nilfisk-ALTO distributor.

Especially check:

- The insulation of the electric cable should be faultless and without any cracks. If the electric cable is damaged, an authorized Nilfisk-ALTO distributor should replace it.

WARNING!

- High pressure jets can be dangerous. Never direct the water jet at persons, pets, live electrical equipment or the machine itself.
- Never try to clean clothes or footwear on yourself or other persons.
- Hold the spray lance firmly with both hands. The spray lance is affected by a thrust of up to 26.5 Nm during ope–ration.
- The operator and anyone in the immediate vicinity of the site of cleaning should take action to protect themselves from being struck by debris dislodged during operation. Wear goggles and protection clothes during operation.
- This appliance has been designed for use with cleaning agents supplied or recommended by the manufacturer. The use of other cleaning agents or chemicals may adversely affect the safety of the appliance.

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- Disconnect from electrical power supply before carrying out user maintenance.
- To ensure the appliance safety only use original spare parts from the manufacturer or approved by the manufacturer.
- High pressure hoses, fittings and couplings are important for the safety of the appliance. Only use hoses, fittings and couplings recommended by the manufacturer.
- Do not use the appliance if a supply cord or important parts of appliance are damaged, e.g. safety device , high pressure hose and trigger gun.
- The appliance is intended to clean cars and garden etc..
- Appropriate ear protection has to be used.
- Never use the machine in an environment where there could be a danger of explosion. If any doubt arises, please contact the local authorities.
- It is not allowed to clean asbestos-containing surfaces with high pressure.
- This high pressure washer must not be used at temperatures below 0°C.

WARNING!
Inadequate extension cables can be dangerous. Cables on drums should always be completely unwinded to prevent the cable from overheating.

If an extension cable is used, the plug and the socket must be waterproof and comply with the below-mentioned requirements for length and cable dimensions.

1.0 mm²	max.	12.5 m
1.5 mm²	max.	20 m
2.5 mm²	max.	30 m

- If the electric cable is damaged, it must be replaced by the manufacturer or his service agent or similarly qualified person in order to avoid a hazard.

Mains power connection

The following should be observed when connecting the high pressure washer to the electric installation:

- The electric installation shall be made by a certified electrician and comply with IEC 364.
- It is recommended that the electric supply to this appliance should include either a residual current device that will interrupt the supply if the leakage current to earth exceeds 30 mA for 30 ms.

Water connection

- Connection to the public mains according to regulations.
- Inlet hose can be connected to the water mains with a max. inlet pressure of 10 bars.

IMPORTANT! Only use water without any impurities. If there is a risk of running sands in the inlet water (i.e. from your own well), an additional filter should be mounted.

Safety devices

- The unloader valve can reduce pressure if it exceeds pre-set values.

Locking device on spray gun (7a) (see foldout at the end of this manual)*:*
The spray gun features a locking device. When the pawl is activated, the spray gun cannot be operated.

Thermal sensor:
A thermal sensor protects the motor against overloading. The machine will restart after a few minutes when the thermal sensor has cooled.

2 Description

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2.1 Application

This high-pressure washer has been developed for domestic use within:

- *Car, motorbike, boat, caravan, trailer, patio/drive/flagstones, woodwork, brickwork, barbecue, garden furniture, lawn mower*

Only use the high-pressure washer for purposes described in this manual.

The safety precautions must be observed to prevent damage to the machine, the surface to be cleaned or severe personal injuries.

2.2 Operation elements and model survey

See foldout at the end of this manual.

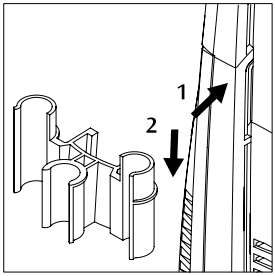
1 Start/stop switch
2 Water inlet with filter (2a)
3 High pressure connection
4 High pressure hose
5 Electric cable
6 Spray lance
7 Spray gun with lock (7a)
8 Multispeed® nozzle
9 Powerspeed® nozzle
10 Foam sprayer
11 Nozzle cleaning tool
12 Lance and nozzle holder
13 Model tag
14 Holder for electric cable (not standard on all models)

Specifications: See model tag (13) of machine.

We reserve the right to alter the specifications.

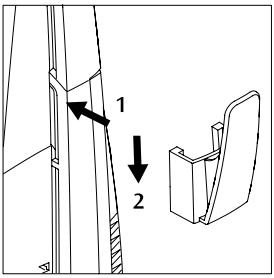
EN 3 Before you start using your pressure washer

3.1 Mounting of lance and nozzle holder



1. Press the lance and nozzle holder (12) on to the machine.

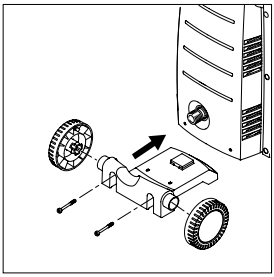
3.2 Mounting of holder for electric cable



1. Press the holder for electric cable (14) on to the machine.

The holder is not standard on all models.

3.3 Mounting of wheels (only models including wheels)



1. Mount the wheel bracket by pressing it into the guide at the bottom of the machine and mounting the two screws.
2. Mount the wheels by pressing them into the bracket.

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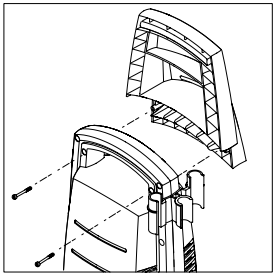
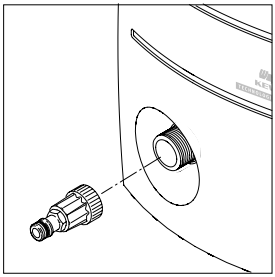
3.4 Mounting of trolley handle (models with trolley handle)



1. Place the trolley handle on the machine.
2. Secure the handle by mounting the 2 screws.

3.5 Mounting of quick coupling

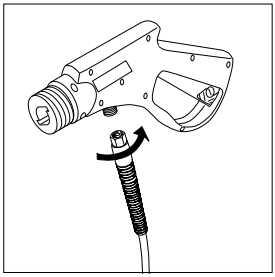


1. Screw the quick coupling tight on to the water inlet (2).

Note: The inlet filter (2a) must always be fitted in the water inlet pipe to filter out sand, limestone and other impurities as these will damage the pump valves.

Caution: Failure to fit the filter will invalidate the guarantee.

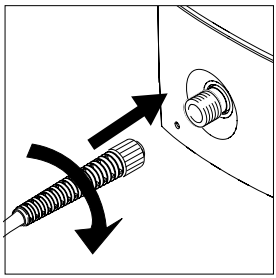
3.6 Mounting of high pressure hose on spray gun



1. Screw the high pressure (4) hose on to the spray gun (7).

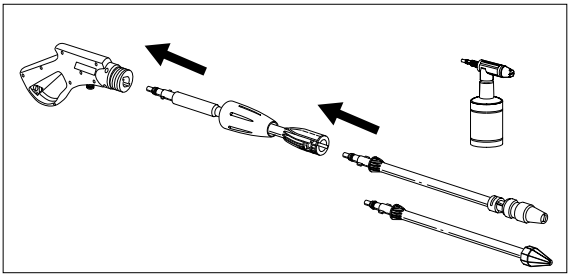
EN 4 Operating your pressure washer

4.1 Connection of high pressure hose



1. Mount the high pressure hose on the outlet (3).

4.2 Mounting of spray lance, nozzles and foam sprayer

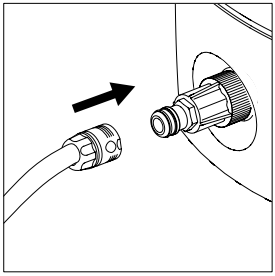


1. Push the spray lance (6) into the spray gun (7) and screw it on.
2. Attach the nozzle.

4.3 Water connection

An ordinary 1/2" garden hose of **min. 5 m** and **max. 25 m** will be suitable.

NOTE: Connection to the public mains according to regulations.



IMPORTANT! Only use water without any impurities. If there is a risk of running sands in the inlet water (i.e. from your own well), an additional filter (106411231) should be mounted.

1. Let the water run through the water hose before connecting it to the machine to prevent sand and dirt from penetrating the machine.
   Note: Check that the filter is fitted in the water inlet pipe and that it is not clogged up.
2. Connect the water hose to the water supply by means of the quick connector (inlet water, max. pressure: 10 bar, max. temperature: 40°C).
3. Turn on the water.

4.4 Start and stop of the machine

The spray lance is affected by a thrust during operation - therefore always hold it firmly with both hands. **IMPORTANT**: **Point the nozzle at the ground.**

1. Check that the machine is in horizontal position.
   NOTE: Do not place the machine in high grass!
2. Release the trigger lock (7a).
3. Activate the trigger of the spray gun and let the water run until all air has escaped from the water hose.
4. Press the Start/stop switch "**I**" (1).
5. Activate the trigger of the spray gun.

Always adjust the distance and thus the pressure of the nozzle to the surface, which is to be cleaned.

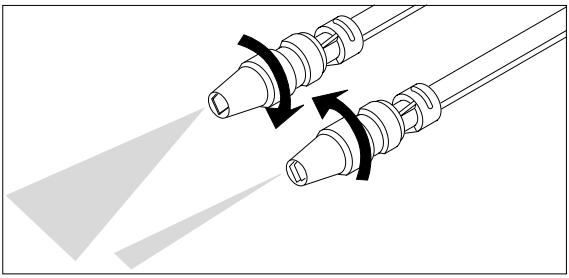
Do not cover the machine during operation or use it in a room without adequate ventilation !

Note: If the machine is left or not used for 5 minutes, it must be switched off on the start/stop switch "**O**" (1):

1. Press the start/stop switch "**O**".
2. Disconnect the electrical plug from the socket.
3. Shut off the water supply and activate the trigger to relieve the machine of pressure.
4. Lock the spray gun (7a).

When releasing the trigger of the spray gun, the machine automatically stops. The machine will start again when you re-activate the spray gun.

4.5 Regulation of spray picture of Multispeed® nozzle



The spray picture can be regulated on the Multispeed® nozzle.

EN 5 After using your pressure washer

5.1 Storing the washer

The machine should be stored in a frost-free room!

Pump, hose and accessories should always be emptied of water prior to storing as follows:

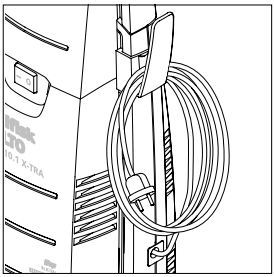
1. Stop the machine (press the start/stop switch "**O**" (1) and detach water hose and accessory.
2. Restart the machine and activate the trigger. Let the machine run until no more water runs through the spray gun.
3. Stop the machine, unplug and wind up hose and cable.
4. Place spray handle, nozzles and other accessories in the holders of the machine.

Should the machine by mistake be frozen, it will be necessary to check it for damage.

NEVER START-UP A FROZEN MACHINE.

Frost damages are not covered by the guarantee!

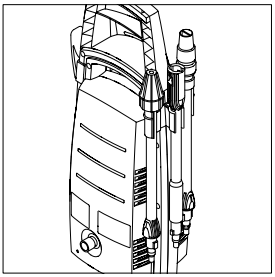
5.2 Winding up of electric cable and high pressure hose



To avoid accidents, the electric cable and the high pressure hose should always be winded carefully up around the handle.

C 110.1 X-TRA: Wind up the cable on the appropriate hook.

5.3 Storage of accessories



The lance and the nozzles can be stored on the pressure washer.

6 Maintenance

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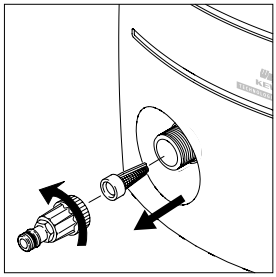
WARNING! Always disconnect the electrical plug from the socket prior to maintenance or cleaning.

To ensure a long and problem free working life, please take the following advice:

- Wash out water hose, high pressure hose, spray lance and accessories before mounting.
- Clean the connectors of dust and sand.
- Rinse the detergent spraying attachment after use.
- Clean the nozzles.

Any repair should always be made in an authorized workshop with original spare parts.

6.1 Cleaning of water inlet filter

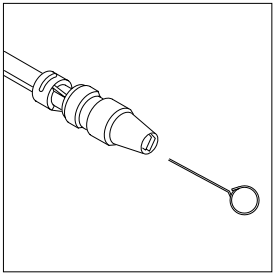


Clean the water inlet filter regularly once a month or more frequently according to use. Carefully loosen the filter with a screwdriver and clean it. Check that it is intact before re-mounting it.

The inlet filter must always be fitted inside the water inlet pipe to filter out sand, limestone and other impurities, as they will damage the pump valves.

CAUTION: Failure to fit the filter will invalidate the guarantee.

6.2 Cleaning of nozzle



A clogging up in the nozzle causes a pump pressure which is too high. This is why cleaning is required immediately.

1. Stop the machine and disconnect the nozzle.
2. Clean the nozzle. **IMPORTANT:** The cleaning tool (11) should only be used when the nozzle is detached!
3. Flush the nozzle backwards with water.

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6.3 Cleaning of machine vents

The machine should be kept clean so as to let cooling air pass freely through the machine vents.

6.4 Greasing of couplings

To ensure an easy connection and that o-rings do not dry up, the couplings should be greased regularly.

7 Trouble-shooting

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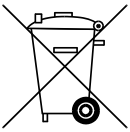
To avoid unnecessary disappointments, you should check the following before contacting the Nilfisk-ALTO service organization:

Symptom	Cause	Recommended action
Machine refuses to start	Machine not plugged in Defective socket Fuse has blown Defective extension cable	Plug in machine. Try another socket. Replace fuse. Switch off other machines. Try without the extension cable.
Fluctuating pressure	Pump sucking air Valves dirty, worn out or stuck Pump seals worn out	Check that hoses and connections are air-tight. Clean and replace or refer to local Nilfisk ALTO distributor Clean and replace or refer to local Nilfisk-ALTO distributor.
Machine stops	Fuse has blown Incorrect mains voltage Thermal sensor activated Nozzle partially blocked	Replace fuse. Switch off other machines. Check that the mains voltage corresponds to specification on the model tag. Leave the washer for 5 minutes to cool down. Clean the nozzle (see section 6.2)
Fuse blows	Fuse too small	Change to an installation higher than the amp. consumption of the machine. You may try without the extension cable.
Machine pulsating	Air in inlet hose/pump Inadequate supply of mains water Nozzle partially blocked Water filter blocked Hose kinked	Allow machine to run with open trigger until regular working pressure resumes. Check that the water supply corresponds to specifications required (see model tag) **NB!** Avoid using long, thin hoses (min. 1/2") Clean the nozzle (see section 6.2) Clean the filter (see section 6.1) Straighten out hose.
Machine often starts and stops by itself	Pump/spray gun is leaking	Contact your nearest Nilfisk-ALTO Service Centre.
Machine starts, but no water comes out	Pump/hoses or accessory frozen No water supply Water filter blocked Nozzle blocked	Wait for pump/hoses or accessory to thaw. Connect inlet water. Clean the filter (see section 6.1) Clean the nozzle (see section 6.2)

In case problems other than the above occur, please contact your local Nilfisk-ALTO distributor.

EN 8 Further information

8.1 Recycling the washer



Make the old cleaner unusable immediately.

1. Unplug the cleaner and cut the electric cable.

Do not discard electrical appliances with household waste.

As specified in European Directive 2002/96/EC on old electrical and electronic appliances, used electrical goods must be collected separately and recycled ecologically.

Contact your local authorities or your nearest dealer for further information.

8.2 Warranty conditions

Nilfisk-ALTO guarantees high pressure washers for domestic use for 2 years. If your high pressure washer or accessories are handed in for repair, a copy of the receipt must be enclosed. Guarantee repairs are being made on the following conditions:

- that defects are attributable to flaws or defects in materials or workmanship. (wear and tear as well as misuse are not covered by the guarantee).
- that the directions of this instruction manual have been thoroughly observed.
- that repair has not been carried out or attempted by other than Nilfisk-ALTO-trained service staff.
- that only original accessories have been applied.
- that the product has not been exposed to abuse such as knocks, bumps or frost.
- that only water without any impurities has been used.
- that the high pressure washer has not been used for rental nor used commercially in any other way.

Repairs under this guarantee include replacement of defective parts, exclusive of packing and postage/carriage. Besides, we refer to your national law of sale.

The machine should be forwarded to one of the service centres of the Nilfisk-ALTO organisation with description/ specification of the fault.

Repairs not covered by the guarantee conditions will be invoiced. (I.e. malfunctions due to **Causes** mentioned in section **Troubleshooting Chart** of the instruction manual).

In order that Nilfisk-ALTO can render you optimum service, you should register your product on our web site www.nilfisk-alto.com under “PRODUCT REGISTRATION”.

9 Main Technical Data

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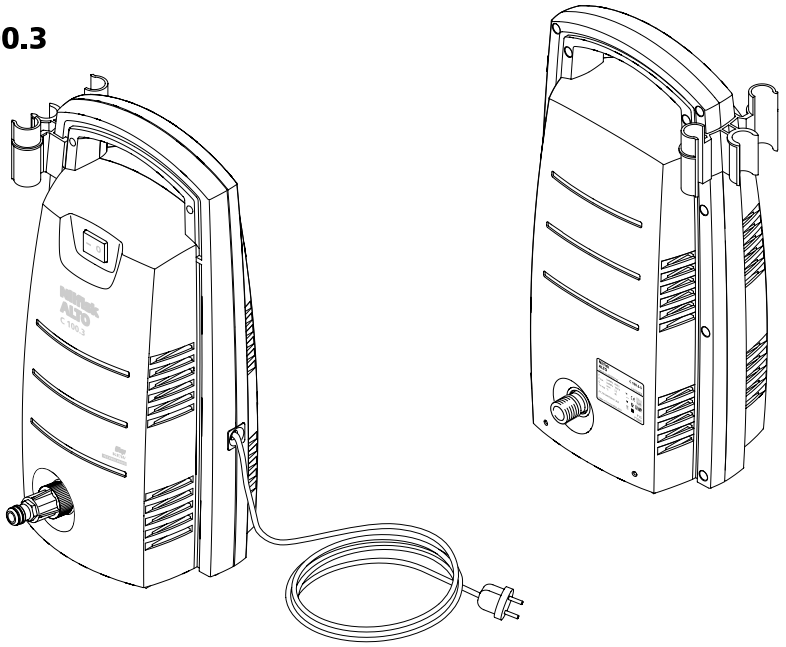
Type		C 100.3	C 110.1	C 110.1 X-TRA
Rated pressure	bar/MPa	65/6.5	70/7.0	70/7.0
Permissible pressure	bar/MPa	max. 100/10.0	max. 110/11.0	max. 110/11.0
Rated flow	l/min	5.3	5.0	5.2
Rated input	kW	1.3	1.4	1.4
Rated voltage	V	230-240	230-240	230-240
Max. water temperature	°C	40	40	40
Inlet pressure	bar	max. 10	max. 10	max. 10
Sound pressure level	dB(A)	78	78	78
Guaranteed sound power level	dB(A)	92	92	92
Vibration according to ISO 5349	m/s^2	max. 2.5	max. 2.5	max. 2.5

10 Declaration

CE **Declaration**	
Manufacturer's name and address or his authorized representative in the Community	Nilfisk-Advance AG Nilfisk-ALTO Business Unit Guido-Oberdorfer-Str. 10 89287 Bellenberg GERMANY
Name of the person responsible for the technical documentation	Wolfgang Nieuwkamp
Description of the equipment: **Equipment name** **Model** **Dimension** **Rated output voltage** **Rated frequency** **Rated input power** **Other**	High pressure washer Nilfisk-ALTO C 100.3-5 / C 110.1-5 / C 110.1-5 X-TRA 255 x 240 x 630 mm AC 230-240 V 50 Hz 1.3 - 1.4 kW
Measured sound pressure level	90 dB(A)
Guaranteed sound power level	92 dB(A)
Related directive	Directive 2000/14EC relating to the noise emission in the environment by equipment for outdoor use
Declaration	The equipment refer in this document fulfils all the requirements of the Directive 2000/14EC
Place and date of the declaration	Bellenberg, November 10, 2005
Signature	

C 100.3



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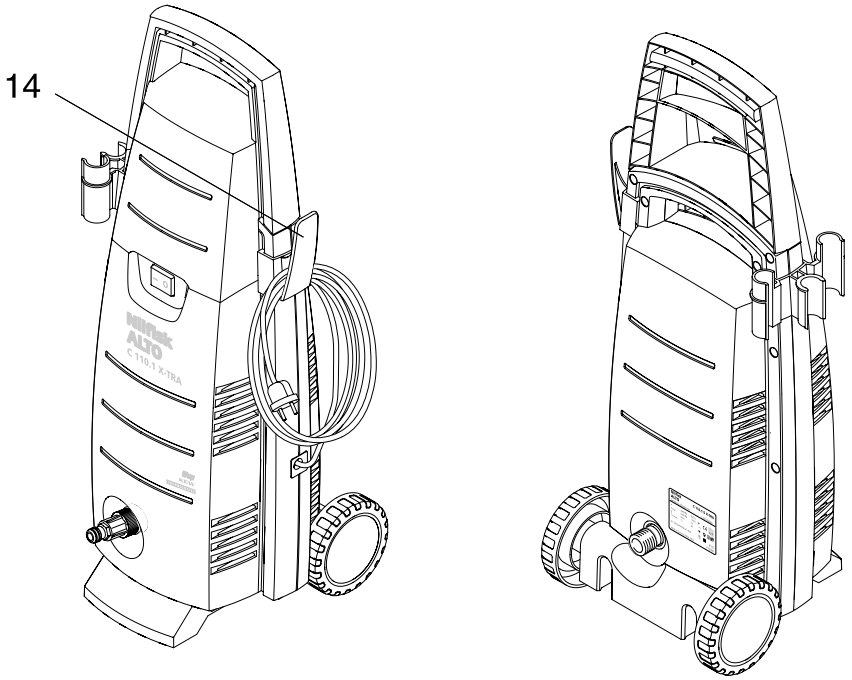

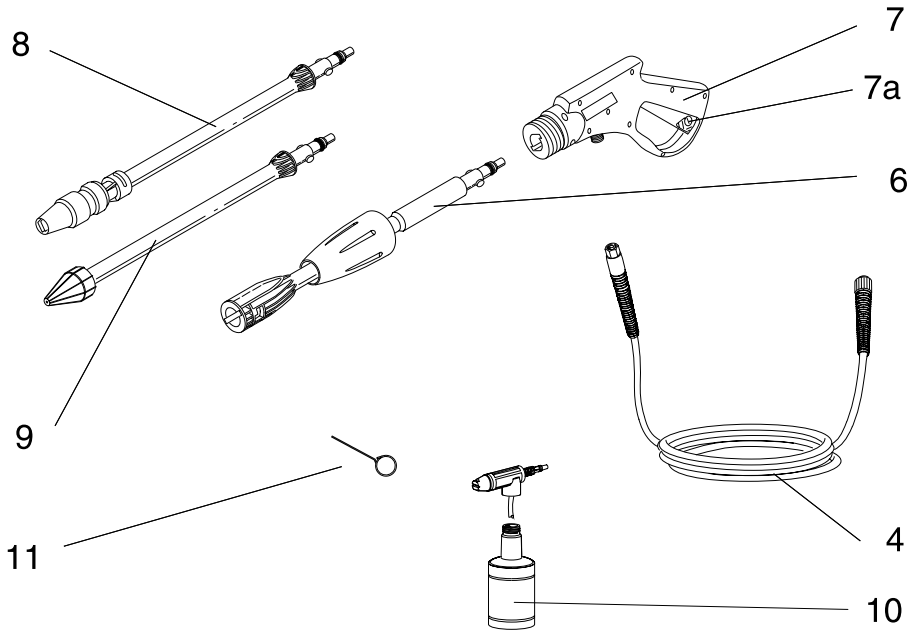

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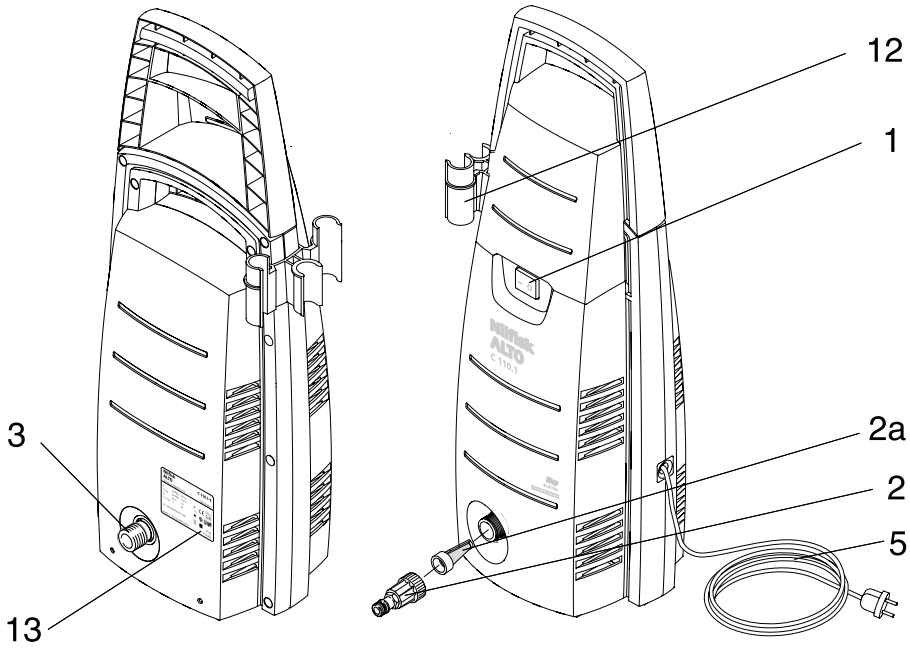

Nilfisk ALTO

Why Compromise

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